

In the Claims:

1. (Currently amended) An image display apparatus comprising:
a light source radiating light of a wavelength in a predetermined wavelength range;
a one-dimensional spatial modulator including one-dimensionally arrayed elements having top surfaces, the elements being arrayed in an arraying direction and independently driven such that the top surface of each element selectively moves upward and downward during operation of the display apparatus;
a scan unit scanning the light to a predetermined first direction during operation of the display apparatus, the light being from said light source, having entered into said one-dimensional spatial modulator and having been modulated therein; and
a controller including:
a clock for generating a reference signal by which the controller operates;
a Fourier transformation section that performs Fourier transformation of image data associated with said light during operation of the apparatus; and
a spatial modulation modulator driving section connected to said clock and said one-dimensional spatial modulator, the modulator driving section operating at a timing based on the reference signal and controlling that controls the independent driving of modulator elements in accord with the Fourier transformed data during operation of the apparatus.
2. (Previously presented) An image display apparatus according to claim 1, wherein said scan unit scans the light modulated by said one-dimensional spatial modulator in a second direction that is perpendicular to said arraying direction.
3. (Previously presented) An image display apparatus according to claim 2, wherein said scan unit is a first scan unit rotating about a first scan unit axis and the apparatus further comprises a second scan unit rotating about a second scan unit axis orthogonal to the first scan unit axis, the second scan unit scanning the modulated light in

said arraying direction.

4. (Previously presented) An image display apparatus according to claim 1, said apparatus further comprising:

a diffuser panel diffusing modulated light scanned by said scan unit to display the stereoscopic image.

5. (Previously presented) An image display apparatus according to claim 1, wherein said one-dimensional spatial modulator comprises a Grating Light Valve.

6. (Previously presented) An image display apparatus comprising:

a light source radiating light having a wavelength in a predetermined wavelength range;

a Grating Light Valve device including a plurality of ribbon-like elements having top surfaces, the Grating Light Valve being configured to generate a phase distribution by independently driving each ribbon-like element so that the top surface of each element selectively moves up and down during operation of the display apparatus;

a collimator lens making the light modulated by said Grating Light Valve device into parallel rays;

a scan unit scanning the parallel rays coming from said collimator lens;

a Fourier transformation lens having a Fourier surface and performing Fourier transformation on the scanned rays; and

a diffuser panel disposed on said Fourier surface for diffusing the rays coming from said Fourier lens.

7. (Previously presented) An image display apparatus comprising:

means for radiating coherent light;

means for receiving image data corresponding to the coherent light;

means for spatially modulating the coherent light in a first direction, wherein the means for spatially modulating is controlled in part according to Fourier transformation of said image data; and

means for scanning the modulated light in said first direction and in a second direction that is orthogonal to said first direction.

8. (Previously presented) An image display method comprising:
radiating coherent light;
Fourier transforming image data associated with said light;
spatially modulating the coherent light in a first direction in accord with said transformed image data; and
scanning the modulated light to a second direction that is orthogonal to said first direction at a first speed.

9. (Currently amended) An image display apparatus according to claim [[1]]2, wherein the scan unit includes a polygon mirror and a volume type hologram device so that the light from the light source is reflected by the polygon mirror and the hologram device, in this order.

10. (Previously presented) An image display apparatus according to claim 2, wherein the scan unit is a galvano-mirror and the apparatus further comprises a multistage mirror having a plurality of stacked reflection surfaces, wherein each surface has an angle that is different than angles of the other of said reflection surfaces, for scanning the light scanned by the scan unit in a direction intermediate said second direction and the arraying direction of the elements.

11. (Previously presented) An image display apparatus according to claim 3, wherein the first and second scanning units are galvano-mirrors.

12. (Previously presented) An image display method according to claim 11, further comprising:
a collimator lens to parallelize the modulated light before scanning by the first and second scanning units during operation of the display apparatus; and
a Fourier transformation lens for transforming the modulated, parallelized,

and two-dimensionally scanned light during operation of the display apparatus.

13. (Previously presented) An image display method comprising according to claim 8, further comprising:

scanning the modulated light to said first direction at a second speed that is different than said first speed, wherein said spatial modulation is controlled based on an amount of shifting of the scanned light resulting from said differing scanning speeds.

14. (Previously presented) An image display method according to claim 8, wherein:

the spatial modulation is performed with a modulation device; and
the modulation device rotates during performance of the method.

15. (Previously presented) An image display apparatus according to claim 3 wherein said second scan unit is a multistage mirror having a plurality of stacked reflection surfaces, wherein each surface has two opposite edges and none of the edges are collinear with any of the other edges.

16. (Previously presented) An image display apparatus according to claim 6 wherein said scan unit includes a multistage mirror having a plurality of stacked reflection surfaces, wherein each surface has two opposite edges and none of the edges are collinear with any of the other edges.

17. (Previously presented) An image display apparatus according to claim 7 wherein the means for scanning the modulated light includes a multistage mirror having a plurality of stacked reflection surfaces, wherein each surface has two opposite edges and none of the edges are collinear with any of the other edges.